



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-0228; Directorate Identifier 2012-NE-09-AD]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney Division Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain Pratt & Whitney Division PW4000-94” and PW4000-100” turbofan engines having a 1st stage high-pressure turbine (HPT) seal support, part number (P/N) 55K601 or P/N 50K532, installed. This proposed AD was prompted by 58 reports of cracked 1st stage HPT air seal rings, including 15 in-flight engine shutdowns. This proposed AD would require installation of a redesigned 1st stage HPT seal support that was introduced to the PW4000 engine fleet through service bulletins issued in the year 2000. We are proposing this AD to prevent failure of the 1st stage HPT air seal ring, which could lead to an internal oil fire, uncontained engine failure, and damage to the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; phone: 860-565-8770; fax: 860-565-4503. You may review copies of the referenced service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: James Gray, Aerospace Engineer, Engine & Propeller Directorate, FAA, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7742; fax: 781-238-7199; e-mail: james.e.gray@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2012-0228; Directorate Identifier 2012-NE-09-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory,

economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We received 58 reports of cracked 1st stage HPT air seal rings, including 15 in-flight engine shutdowns, in certain PW4000-94” and PW4000-100” turbofan engines. Pratt & Whitney’s investigation has revealed that vibratory excitation causes the 1st stage HPT air seal ring to crack when a 1st stage HPT seal support, P/N 55K601 or P/N 50K532, is installed. Installing the redesigned 1st stage HPT seal support, P/N 50K153, that was introduced to the PW4000 engine fleet for another reason through service bulletins issued in the year 2000 also prevents cracking of the 1st stage HPT air seal ring. Cracking of the 1st stage HPT air seal ring, if not corrected, could result in failure of the 1st stage HPT air seal ring, which could lead to an internal oil fire, uncontained engine failure, and damage to the airplane.

Relevant Service Information

We reviewed Pratt & Whitney Service Bulletin (SB) No. PW4ENG 72-721, Revision 2, dated November 30, 2011, and SB No. PW4G-100-72-166, Revision 2, dated December 2, 2011. The service information describes procedures for replacing the 1st stage HPT seal support, P/N 55K601, or P/N 50K532, with a redesigned 1st stage HPT seal support, P/N 50K153.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require accomplishing the actions specified in the service information described previously. This proposed AD would also require fluorescent-penetrant-inspection or eddy current-inspection of the 1st stage HPT air seal ring for cracks, and replacing it if found cracked.

Costs of Compliance

We estimate that this proposed AD would affect 446 Pratt & Whitney Division PW4000-94" and PW4000-100" turbofan engines installed on airplanes of U.S. registry. We also estimate that it would take about 3 work-hours to perform the actions required by this AD. The average labor rate is \$85 per work-hour. Required parts would cost about \$45,723 per engine. Based on these figures, we estimate the total cost of the AD to U.S. operators to be \$20,506,188.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority

because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

Pratt & Whitney Division: Docket No. FAA-2012-0228; Directorate Identifier 2012-NE-09-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to the following Pratt & Whitney Division turbofan engines:

(1) PW4000-94" engine models PW4050, PW4052, PW4056, PW4152, PW4156, PW4650, PW4060, PW4060A, PW4060C, PW4062, PW4062A, PW4156A, PW4158, PW4160, PW4460, and PW4462, including models with any dash-number suffix, with a 1st stage high-pressure turbine (HPT) seal support part number (P/N) 55K601 or P/N 50K532, installed.

(2) PW4000-100" engine models PW4164, PW4164C, PW4164C/B, PW4168, and PW4168A with a 1st stage HPT seal support P/N 55K601 or P/N 50K532, installed.

(d) Unsafe Condition

This AD was prompted by 58 reports of cracked 1st stage HPT air seal rings, including 15 in-flight engine shutdowns. We are issuing this AD to prevent failure of the 1st stage HPT air seal ring, which could lead to an internal oil fire, uncontained engine failure, and damage to the airplane.

(e) Compliance

Comply with this AD the next time that the engine is separated at the M-flange and the HPT module is removed from the engine.

(1) Remove the 1st stage HPT seal support, P/N 55K601 or P/N 50K532, from service and replace it with a 1st stage HPT seal support, P/N 50K153.

(2) Remove the 1st stage HPT air seal ring from the engine and fluorescent-penetrant-inspect, or eddy current-inspect, it for cracks. If found cracked, remove the 1st stage HPT air seal ring from service.

(f) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request.

(g) Related Information

(1) For more information about this AD, contact James Gray, Aerospace Engineer, Engine & Propeller Directorate, FAA, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7742; fax: 781-238-7199; e-mail: james.e.gray@faa.gov.

(2) Pratt & Whitney Service Bulletin (SB) No. PW4ENG 72-721, Revision 2, dated November 30, 2011, and SB No. PW4G-100-72-166, Revision 2, dated December 2, 2011, pertain to the subject of this AD.

(3) For service information identified in this AD, contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; phone: 860-565-8770; fax: 860-565-4503.

(4) You may review copies of the service information at the FAA, New England Region, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on April 16, 2012.

Peter A. White,
Manager, Engine & Propeller Directorate,
Aircraft Certification Service.

[FR Doc. 2012-9545 Filed 04/19/2012 at 8:45 am; Publication Date: 04/20/2012]